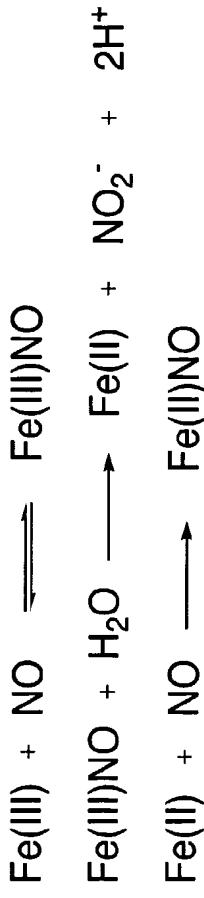


Spectrophotometric Detection of HNO by Trapping with Methemoglobin



characteristic absorption between 530 and 600 nm

NO can also give a small response:



But glutathione quenching can confirm HNO:

$$k_{\text{HNO}} = 2 \times 10^6 \text{ M}^{-1} \text{s}^{-1}$$

$$k_{\text{NO}} < 4 \times 10^2 \text{ M}^{-1} \text{s}^{-1}$$

glutathione will quench the characteristic Fe(II)NO absorption between 530 and 600 nm if it was produced via reaction with HNO, but will not if it was produced via reaction with NO

Figure 1.

For Comparison --

Methemoglobin Assays with Angelī's Salt

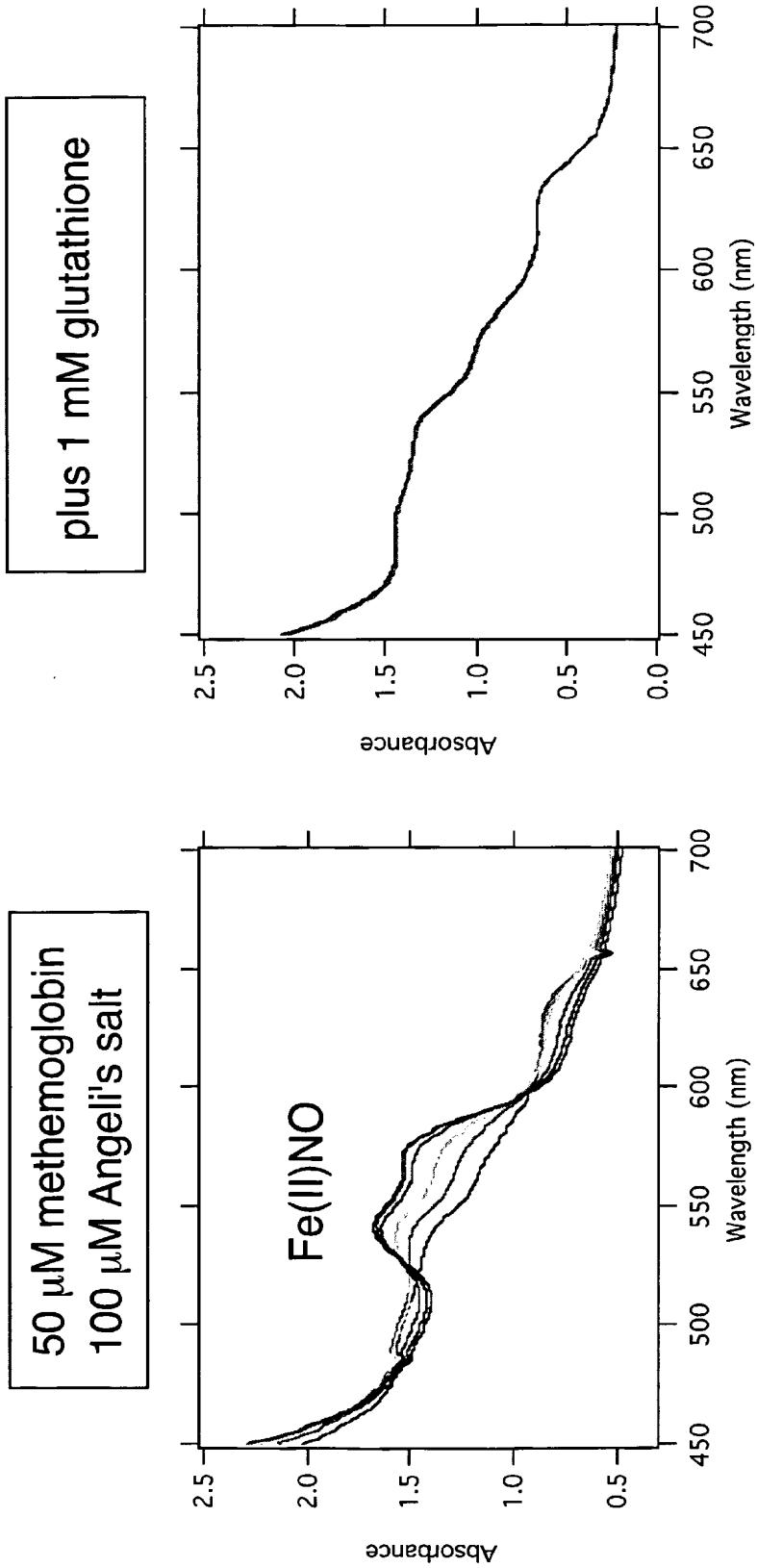
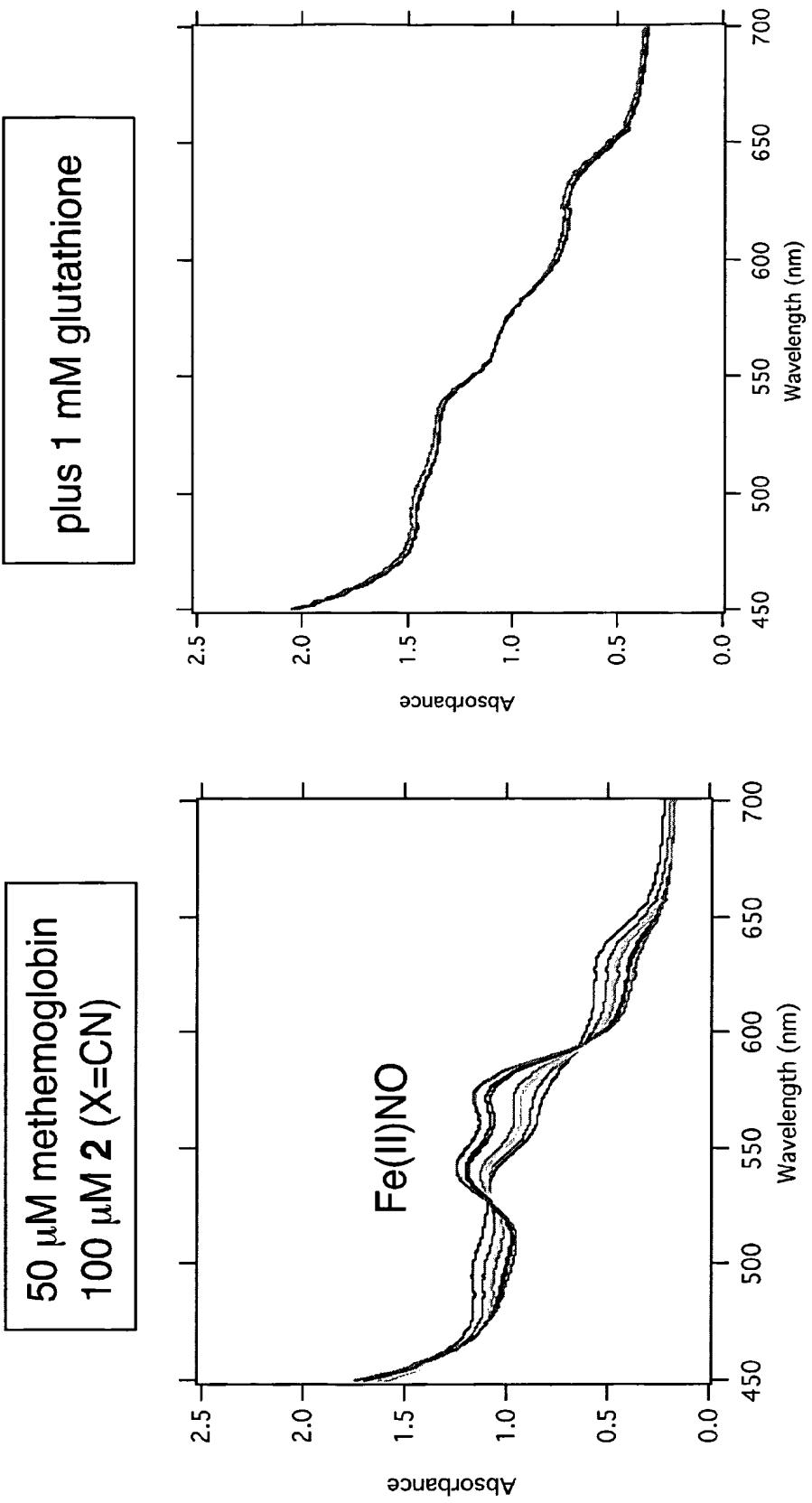


Figure 2.

Methemoglobin Assays with 2 ($X=CN$)



N_2O is observed by gas chromatography analysis as well

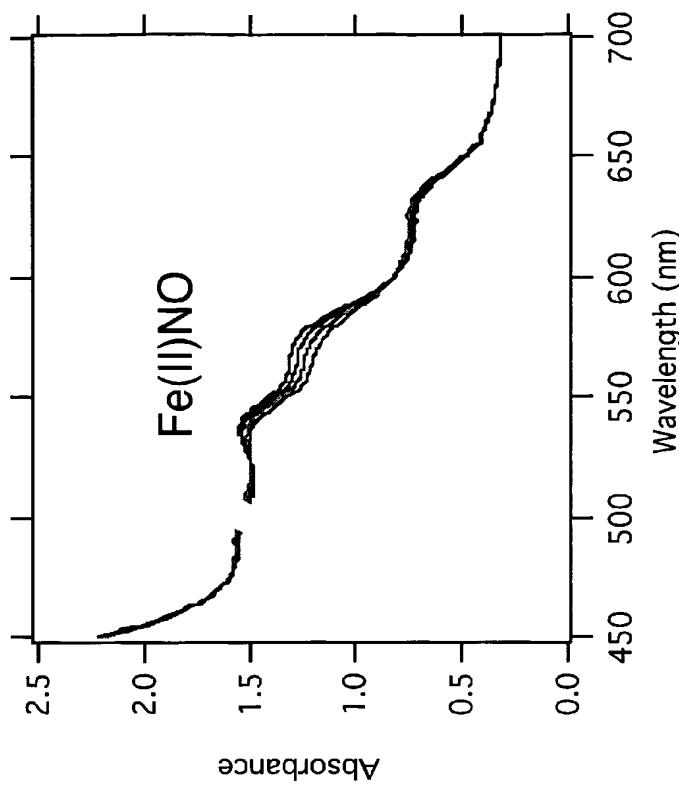
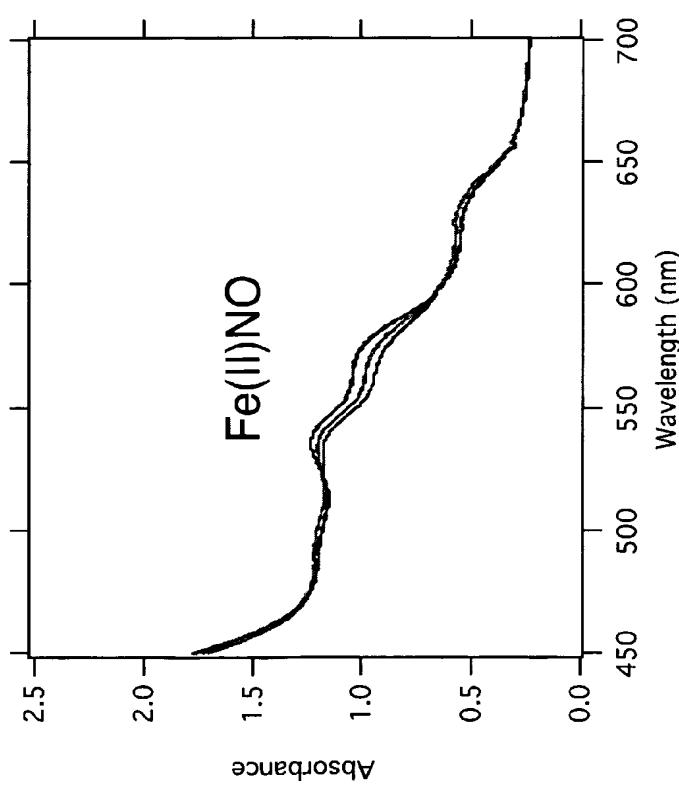
Figure 3.

For Comparison --

Methemoglobin Assays with 2 ($X=H$)

50 μM methemoglobin
150 μM 2 ($X=H$)

plus 1 mM glutathione



no N_2O is observed by gas chromatography analysis

Figure 4.

The Effect of the pK_a of the Protonated Form of the Amine from which Compounds 2 are Made

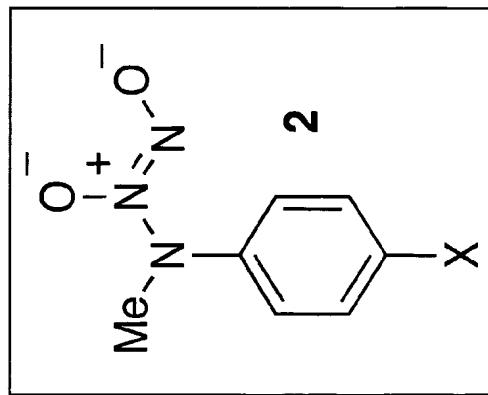
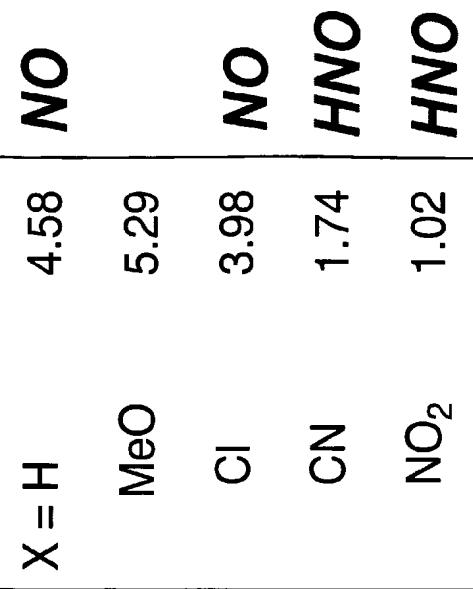
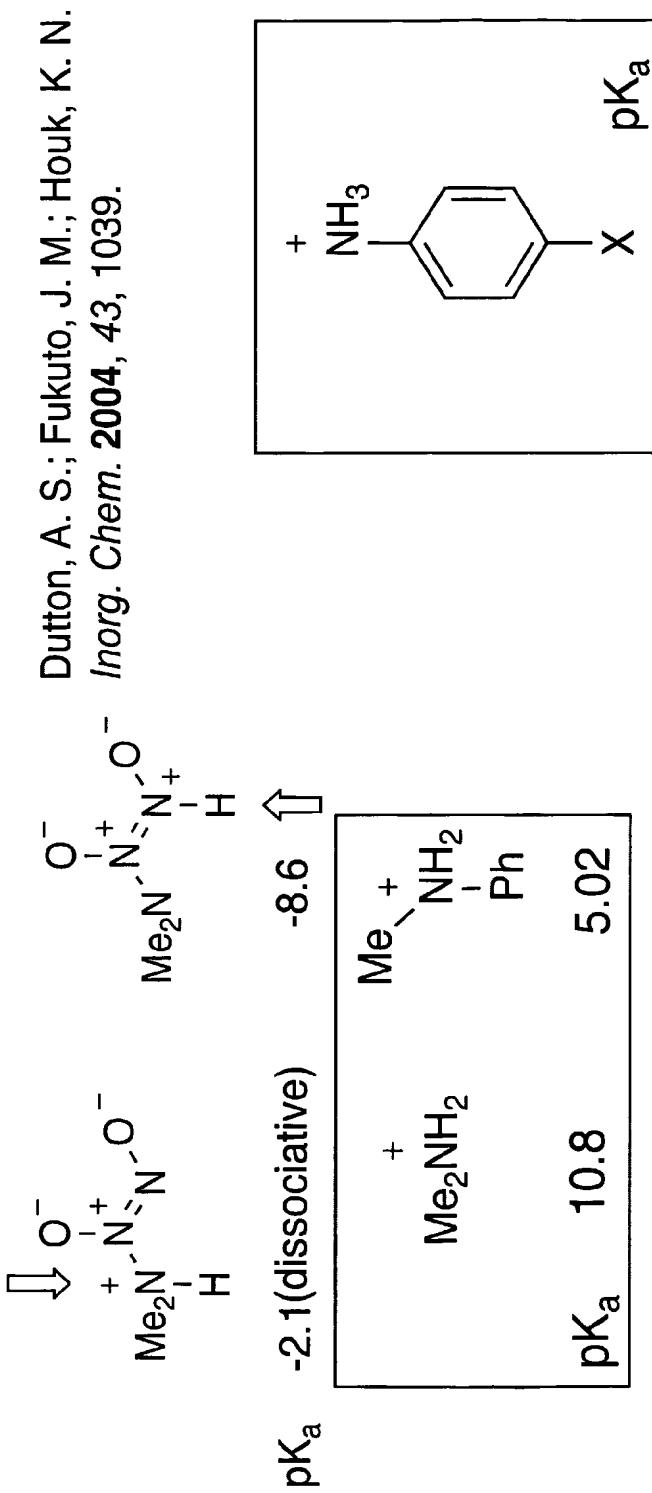


Figure 5.

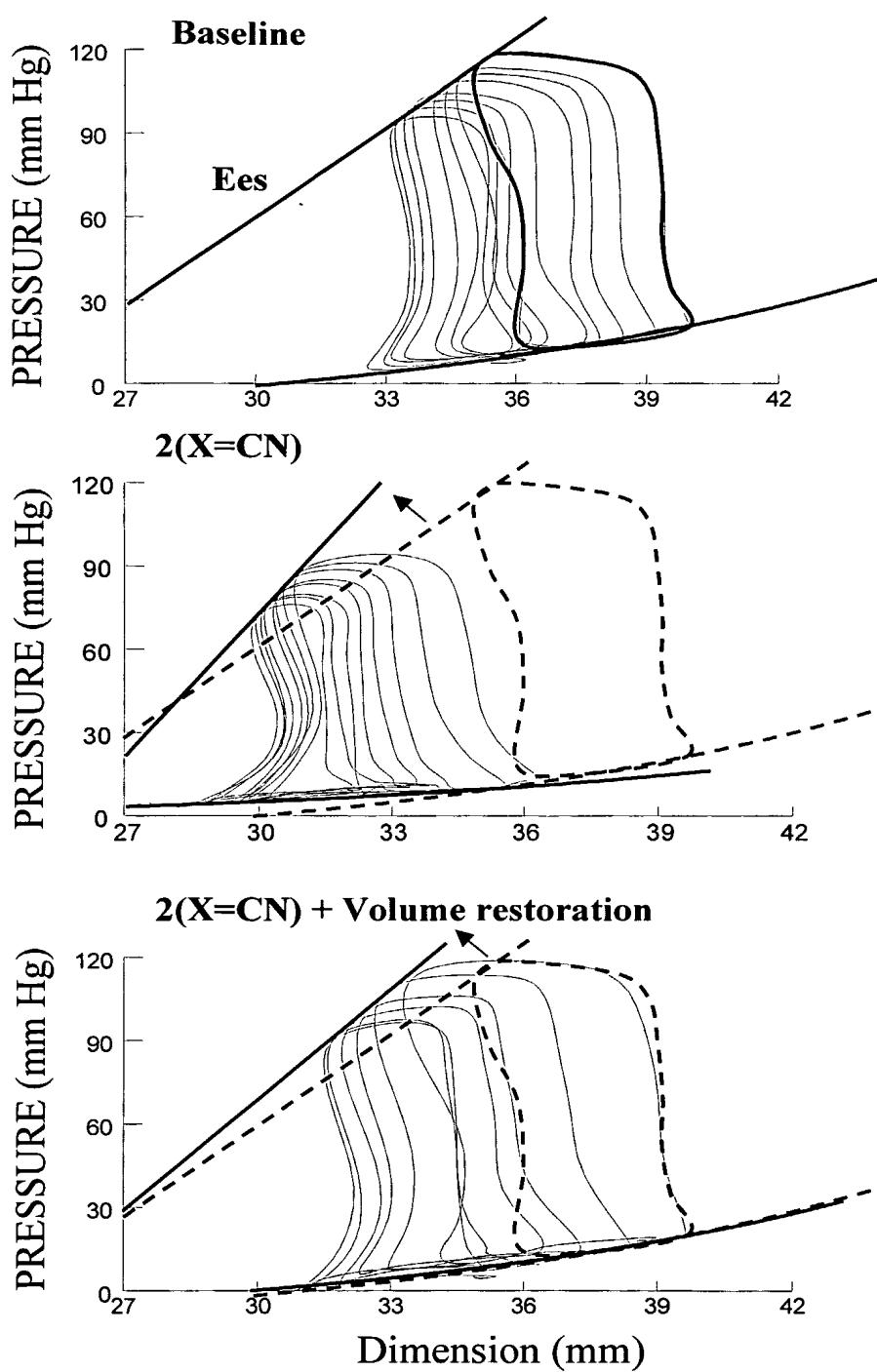


Figure 6.